REMARKS

Applicants submit the foregoing amendments following the Office Interview with the Examiner on September 25, 2002. Applicants have adopted, in part, the Examiner's suggestion of amending claim 31 as set forth in the Examiner Interview Summary Record in order to overcome the 35 U.S.C. 102(b) rejection of the claims as being anticipated by Ugon, U.S. Patent No. 4,382,279. Accordingly, reconsideration of the rejection is requested in view of the foregoing amendments and the following remarks.

As set forth in amended claim 31, significant amounts of the first program are stored in the electrically erasable and programmable ROM as an operation program of the central processing unit. Further, as amended, claim 31 sets forth that the significant amounts of the first program that are stored in the ROM are written in a write process where the central processing unit controls the write control circuit by executing the second program. These limitations have been added to the claims to emphasize the differences between the present invention and that of the Ugon reference.

Additionally, claim 31 has been amended in several

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instances to change "write control" to --second-- to be consistent with the fourth paragraph of claim 31, which recites the second program as a write control program. These additional changes to claim 31 appear subsequent to the fourth paragraph of the claim, and therefore antecedent support for the proposed changes already exists in the claim.

The combination set forth in amended claim 31 is patentable over Ugon. Mainly, the reference does not disclose or suggest a microcomputer on a semiconductor chip having a central processing unit, an electrically erasable and programmable ROM, a write control circuit and an input and output unit wherein a first program received from outside of the semiconductor chip is input by controlling the write control circuit to write the first program to the ROM based on the second program, which is stored as a write control program in the memory.

The Examiner takes the position that Ugon teaches a microprocessor EPROM 101 having memory sections M1 and M2 in which a program is stored. However, Ugon states that memory block M1 is used for storing non-evolving programs or parts of programs, whereas block M2 contains the evolving program or parts of programs. See, for example, col. 6, lines 55-63 of

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the reference, in which Ugon explains that the program which is executed in blocks M1 and M2 of memory 101 "modifies the information content of memory block M2", suggesting that the content of memory block M1 is not modified. In this regard, Ugon further comments that the memory block M1 can be produced in the form of a ROM and the second memory block M2 in the form of a PROM or EPROM (see Ugon, col. 6, lines 5-10).

To one having ordinary skill in the art, therefore, Ugon discloses a memory (memory block M1) that stores a program that is not written to from outside of the semiconductor chip, as claimed by Applicants. Accordingly, significant amounts of the program (input from outside the chip) cannot be written to the memory in a write process where the CPU controls a write control circuit by executing a write control program. That is, Ugon merely discloses storing an automatic program (PROG) in memory block M1 for performing the functions required for writing to memory 101, and in particular to memory block M2. However, there is no disclosure suggesting that the memory block M2 stores a program, such as an operation program, in which significant amounts of the program are written to the memory block (M2) from outside the semiconductor chip in a manner comparable to that of the present invention.

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Therefore, Ugon does not anticipate the invention as set forth in claims 31, 32 and 34, and consequently the 35 U.S.C. § 102(b) rejection should be withdrawn.

Claim 33 stands rejected as being unpatentable under 35 U.S.C. § 103(a) over Ugon et al. However, claim 33 is patentable over the reference at least for the aforementioned reasons asserted with respect to the patentability of claims 31, 32 and 34. Further, the claim includes that the memory which stores the write control program is a RAM that receives the write control program from the ROM. Accordingly, the 35 U.S.C. § 103(a) rejection should be withdrawn.

Applicants have presented amendments to the claims after final rejection, however consideration and entry of these amendments is requested since the proposed amendments were discussed, in part, in the Office Interview and the amendments have been made in order to place the application in condition for allowance.

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Accordingly, entry of the foregoing amendments and reconsideration and reexamination of the rejections are respectfully requested.

Respectfully submitted,

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Date: December 23, 2002

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MARKED UP VERSION OF REWRITTEN CLAIMS

31. (Third Amended) A microcomputer on a semiconductor chip, the microcomputer comprising:

a central processing unit;

an electrically erasable and programmable ROM capable of storing a first program as an operation program of the central processing unit and data;

a write control circuit which performs a writing of the first program or the data to the ROM under control of the central processing unit;

a memory in which a second program as a write control program for [a] writing to the ROM is stored; and

an input and output unit;

wherein the central processing unit performs a writing to the ROM of the first program input from outside of the semiconductor chip via the input and output unit by controlling the write control circuit based on the [write control] second program,

wherein the first program includes an instruction which changes a process of the central processing unit to a process that controls a writing of the ROM based on the [write control] second program stored in the memory, [and]

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wherein the [write control] second program includes an instruction which returns the process of the CPU to a process based on the first program stored in the ROM after completion of the process that controls the writing of the ROM, and

wherein significant amounts of the first program stored in the ROM are written in a write process where the central processing unit controls the write control circuit by executing the second program.

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